

REMARKS

I. Introduction

Claims 1-24 are pending in the present application. In an October 2, 2006, Office Action (hereinafter "Office Action"), applicant's Claims 1-3, 5, and 13-22 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,594,637 to Furukawa et al. (hereinafter "Furukawa"). Claims 4, 6-9, 11, 12, 16, 18-21, 23, and 24 were rejected under 35 U.S.C. § 103(a) as being obvious over Furukawa in view of U.S. Patent No. 6,369,840 to Barnett et al. (hereinafter "Barnett"). For the following reasons, applicant respectfully submits that Claims 1-24 are not anticipated by Furukawa and are non-obvious over Furukawa in view of Barnett because the prior art alone, or in combination, fails to teach or suggest filtering a recurrence event that is represented in a database as a single database record.

Pursuant to 37 C.F.R. § 1.111, and for the reasons set forth below, applicants respectfully request reconsideration and allowance of the pending claims. Prior to presenting the reasons why applicants believe that the pending claims are in condition for allowance, a brief summary of the present invention, as well as the cited references are presented. However, it should be appreciated that the following summaries are presented solely to assist the Examiner in recognizing the differences between the pending claims and the cited reference, and should not be construed as limiting upon the present invention.

A. Summary of the Present Invention

Aspects of the present invention enable the storage of recurrence events in a single database record while allowing filtering of the recurrence event. In this regard, the present invention enables filtering of recurrence events by obtaining a data set of exceptions, identifying exceptions that are not contained in the filtered data set, and creating a new data set of filtered items. Instead of generating output for transmission to the user based on a filtered data set, the

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new data set of filtered items is used to generate the output that will be displayed to the user. This enables software such as calendar software to minimize the amount of data stored in a database that is ultimately transmitted between remote computing devices. In one embodiment, the present invention supports filtering of recurrence events and exceptions to recurrence events that is managed by calendar software. The calendar software is web-based and includes a database located on a server computing device that receives requests for calendar items from a client computing device associated with a user. The server computing device is able to satisfy the request efficiently and quickly because the recurrence event is stored as a single database record in a database.

B. Summary of Furukawa

Furukawa is purportedly directed to a schedule management system for managing periodically occurring events for a plurality of users. In this regard, based on the schedules of a plurality of different users, a corresponding date in which an event may be scheduled that does not conflict with another scheduled event for each user is automatically generated. More specifically, a common routine schedule number is correlated to the generated schedules of the different users and a common sum schedule number is associated to each date. As a result, the schedules registered by the different users can be corrected and/or deleted individually and in groups. As a result, a user of the Furukawa system may automatically identify a time that is available to schedule an event that is available for a plurality of users. For example, by inputting a regularly and periodically occurring schedule for a plurality of users together with a period of occurrence and a condition of occurrence, a time when a set of users are available for a meeting may be generated. In this regard, conditions of occurrences are identified so that a corresponding day that all of the users are available may be generated. To this end, the

Furukawa system automatically identifies weekends and holidays in which users would not be available.

C. Summary of Barnett

Barnett is purportedly directed to an online calendaring and purchasing system based on user selected events. The user may select categories of interest and then select individual events within those categories. A user-specific calendar is provided that displays events selected by the user. Moreover, calendars may also be shared among a number of selected users. In this regard, online purchasing and related actions can be associated with each event.

II. Claim Objections Under 35 U.S.C. § 112

The Office Action objected to applicant's numbering system for using the same reference identifiers in dependent claims that appear in independent claims. For each of the pending claims in the application, the reference identifiers have been removed to overcome these objections.

III. Claim Rejections Under 35 U.S.C. § 102

The Office Action rejected Claims 1-3, 5, and 13-22 under 35 U.S.C. § 102(e) as being anticipated by Furukawa. The Office Action asserts that Furukawa discloses each of the elements of applicant's claims. Applicant respectfully disagrees. As described in more detail below, the cited reference fails to disclose or suggest certain elements of the independent and dependent claims.

1. Claims 1 and 13

For purposes of this discussion, independent Claims 1 and 13 of the present application will be discussed together because the same distinguishing elements over Furukawa are recited in each of these claims. Claim 1 recites the following:

1. A method of filtering recurrence events comprising:

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in response to receiving a request to display a recurrence event, determining if a filter is required to satisfy said request, wherein said recurrence event is represented in a database in a single database record;

if a filter is required to satisfy said request, creating a data set related to said recurrence event consisting of filtered items and exceptions; and

structuring said data set of filtered items and exceptions for display on a computing device, wherein structuring said data set includes expanding said recurrence event from the single database record.

Similarly, Claim 13 recites the following:

13. A computer-readable medium bearing computer-executable instructions which, when executed, carry out a method of filtering recurrence events comprising:

in response to receiving a request to display a recurrence event, determining if a filter is required to satisfy said request, wherein said recurrence event is represented in a database in a single database record;

if a filter is required to satisfy said request, creating a data set related to said recurrence event consisting of filtered items and exceptions; and

structuring said data set of filtered items and exceptions for display on a computing device, wherein structuring said data set includes expanding said recurrence event from the single database record.

As mentioned briefly above, aspects of the present invention enable the storage of recurrence events in a single database record while allowing filtering of the recurrence event. This enables software such as calendar software to minimize the amount of data stored in a database that is ultimately transmitted between remote computing devices. In one embodiment, the present invention supports filtering of recurrence events and exceptions to recurrence events that is managed by calendar software. The calendar software is web-based and includes a database located on a server computing device that receives requests for calendar items from a client computing device associated with a user. The server computing device is able to satisfy

the request efficiently and quickly because the recurrence event is stored as a single database record in a database.

Furukawa is directed to schedule management software that allows a plurality of users to register and manage a routine schedule that occurs in a substantially constant condition. In this regard, a change or deletion by one person to a schedule is processed so that the change or deletion is reflected in a group of persons who share the same routine schedule. Moreover, a user of the Furukawa system may automatically identify a time that is available to schedule an event for a plurality of users. For example, by inputting a regularly and periodically occurring schedule for a plurality of users together with a period of occurrence and a condition of occurrence, a time when a set of users are available for a meeting may be generated. In this regard, conditions of occurrences are identified so that a corresponding day that all of the users are available is identified. In this regard, the Furukawa system automatically identifies weekends and holidays in which users would not be available. Furukawa at Col. 11, lines 5-15. While Furukawa is related to schedule management software, the purposes of Furukawa are fundamentally different than the claimed elements of the present application.

In contrast to the elements recited in Claims 1 and 13, Furukawa does not teach receiving a request to display a recurrence event "wherein the recurrence event is represented in a database in a single database record." Data management in the Furukawa system is implemented in a set of master tables that manage the location of a server in which a user's schedule information is resident. In this regard, the schedule management functions performed by Furukawa include maintaining tables that identify the semantics of each scheduling event in which the user is scheduled to participate. Unlike the present invention, recurrence events in which a user is scheduled to participate are not maintained in a database as a single database record. In this regard, Furukawa states:

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FIG. 4 is a schematic chart of the user schedule data table in the preferred embodiment of this invention. As shown in FIG. 4, a user name (user ID) 221, the date 223, the starting time 225, the ending time 227, the subject 229, the place 231, the routine schedule number 233, the sum schedule number 235 are managed in the user schedule data table 220 in the preferred embodiment of this invention. The date, the starting time and the ending time in which the schedule occurs are stored in the date 223, the starting time 225 and the ending time 227, respectively.

Furukawa at Col. 8, lines 36-46. Each entry in the user's schedule data table described with reference to FIGURE 4 in Furukawa describes the semantics of a scheduled event (e.g., the date, starting time, ending time, subject, place, and the like.) In other words, each scheduled event that is part of a recurring schedule is maintained in the user's schedule data table as a separate record with each record maintaining a set of data that describes the event. By contrast, aspects of the present invention store a recurrence event in single database records to minimize the amount of data stored in the database. In this regard, data is maintained and manipulated by aspects of the present invention that enable recurrence events to be filtered even though a recurrence event is stored as a single database record. As described in the present application, a recurrence event maintained by calendar software is stored as a single record in a database. Referring to FIGURE 6, the present application states:

The sample calendar contains a weekly recurrence event that spans six (6) years from May 4, 2000, to May 24, 2006 (only the period from May 1, 2003, through May 30, 2003, is visible in FIGURE 6). The weekly recurrence event corresponds to RECURRENCE A1 314 that is expanded into individual items in DATA SET N.

Present application at page 12. Even though the recurrence event ("RECURRENCE A1 314") represents a plurality of different scheduled events, the "RECURRENCE A1 314" is stored in the database 200 as a single database record. By storing a recurrence event in a single database record, the amount of data that is stored and transmitted between remote computing devices is

minimized. This results in a performance benefit over systems like Furukawa that store events in expanded form.

In contrast to Claims 1 and 13 of the present application, Furukawa does not disclose structuring a data set for display on a computing device "wherein structuring said data set includes expanding said recurrence event from the single database record." Applicant agrees that Furukawa discloses displaying a set of regularly scheduled events to a user. However, in order to display the set of regularly scheduled events, Furukawa does not teach expanding those events from a single database record. The relevant portion of Furukawa that describes the processing performed to display a schedule to a user is discussed with reference to FIGURE 12. The discussion in Furukawa in its entirety provided with reference to FIGURE 12, states:

FIG. 12 is a flow chart showing the schedule display procedure in the preferred embodiment of this invention. When an operator selects a schedule to be displayed and instructs to display the content of the schedule, the event detecting part 103 detects this and the procedure is started (blocks 601, 603).

The control part 105 accesses to the user schedule data management table 250 via the table input/output part 106 to obtain the schedule data of interest and save it in the local data storage part 108 (block 605). The local data storage part 108 is then accessed to determine whether or not a routine schedule number and a sum schedule number are associated with the schedule to be changed (block 609). When a routine schedule number and a sum schedule number are not associated with the schedule to be changed, the schedule which is stored in the local data storage part 108 as a normal schedule is displayed in a normal manner (block 613). When a routine schedule number and a sum schedule number are associated with the schedule to be changed, the schedule is displayed in a manner different from a normal schedule so that it may be recognized as a group routine schedule (block 611).

Furukawa Col. 14, lines 26-48.

Applicant is unable to find any description of expanding recurrence events from a single database record in the description provided by Furukawa. Instead, as stated previously,

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Furukawa represents events in an expanded format with the semantics of each event being maintained in separate entries in a table. More specifically, even though an event is recurring, Furukawa stores each separate event in a table that is associated with each user. In contrast, Claims 1 and 13 recite processing recurring events that are stored in a database in a single database record. When a user's calendar will be displayed, the single database record is expanded so that the separate events in the recurrence event may be displayed to the user. This element of Claims 1 and 13 is reflected in the specification in the present application which states: "[R]ecurrence events are stored as a single record in a database common such as event database 200. The expansion engine 208 receives data sets from a database that contain recurrence events and generates one or more items from the data sets. More specifically, when a data set like data set P 320 is obtained by the expansion engine 208, items like those illustrated in FIGURE 6 may be generated." (Present application at p. 12). Furukawa in no way teaches receiving a request to display a recurrence event wherein the recurrence event is represented in a single database record. Accordingly, for this additional reason, Furukawa does not teach each element recited in Claims 1 and 13.

Under Section 102(e), a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987) (February 2003). Applicants respectfully submit that Furukawa fails to expressly or inherently teach, disclose, or suggest each and every element of Claims 1 and 13. As explained above, Furukawa fails to disclose or suggest expanding recurrence events from a single database record, among other elements of Claims 1 and 13. Accordingly, applicants respectfully request withdrawal of the pending rejection under 35 U.S.C. § 102 with regard to Claims 1 and 13.

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2. Claims 2-3, 5, and 13-22

Claims 2-3, and 5 depend on independent Claim 1. Similarly, Claims 14-22 depend on independent Claim 13. As discussed above, Furukawa fails to teach or suggest expanding a recurrence event from a single database record. Accordingly, for the above-mentioned reasons, Claims 2-3, 5, and 14-22 are also allowable over Furukawa. Additionally, these claims are not anticipated by Furukawa for additional reasons, some of which are discussed in further detail below.

Claims 5 and 17 include the element of "identifying exceptions that are not included in the exceptions included in the data set of filtered items by applying a set operation on the data set of exceptions and the data set of filtered items." More specifically, as stated in the present application, a set operation on two data sets may identify all exceptions to a recurrence event that exist for a particular time frame. The set difference operation identifies exceptions that were not retrieved from the database because a filter was applied to these exceptions. Applicant is unable to find any reference in Furukawa to applying filters to recurrence events. Moreover, applicant is unable to find any reference in Furukawa to applying set operations to different data sets in order to identify exceptions that are not included in the data set of filtered items. Since the Furukawa system does not perform set operations to identify exceptions that are not included in the data set of filtered items, Furukawa in no way teaches the additional elements that are recited in Claims 5 and 17.

Claim 18 adds the additional element of "generating a database query that requests exceptions . . ." and "in response to said database query, receiving said data set of exceptions." The Office Action asserts that Furukawa discloses these additional elements recited in Claim 18 and cites Col. 11, lines 10-29 of Furukawa in support of that proposition. However, the relevant portion of Furukawa states: "When the dates outputted as a routine schedule have been

calculated, the table input/output part 106 obtains an address of the schedule data table server of the user of interest from the user management master table 210 (block 423)." Furukawa at lines 20-24. As clearly stated in Furukawa, the exceptions are calculated based on a mathematical formula that is defined by a basic condition. Applicant respectfully submits that having to calculate exceptions from basic conditions is different than generating a database query to identify exceptions as recited in Claim 18. Accordingly, Furukawa fails to teach or suggest the additional element recited in Claim 18 and this claim is allowable for this additional reason.

Claim 20 recites the additional element of "performing a computer-implemented set difference operation between the exceptions and the database of filtered items." The Office Action asserts that Furukawa teaches performing a computer-implemented set difference operation between the exceptions and the data set of filtered items and cites Col. 10-11, lines 58-18 of Furukawa in support of that proposition. The cited portion of Furukawa discloses a mathematical formula for excluding Sundays, national holidays, and the second and fourth Saturdays in a schedule of events. Instead of applying a different mathematic formula defined in a basic condition as disclosed in Furukawa, aspects of the present invention apply a set difference operation to identify exceptions. The set difference operation as disclosed in the present application applies regardless of how exceptions are defined. In contrast, Furukawa applies a different mathematical formula to identify exceptions depending on the basic condition. Accordingly, Furukawa fails to teach or suggest the additional element recited in Claim 20. Thus, applicant asserts that this claim is also allowable for this additional reason.

IV. Claim Rejections Under 35 U.S.C. § 103(a)

The Office Action rejected Claims 4, 6-9, 11, 12, 16, 18-21, 23, and 24 as being obvious over Furukawa in view of Barnett. The Office Action asserts that the cited references disclose each of the elements of these claims and that it would have been obvious to a person of ordinary

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skill in the art to combine the teachings of the cited references at the time the invention was made. Because a dependent claim carries each and every limitation of the claim it depends on, the references, either alone or in combination, fail to teach or suggest each of the limitations as discussed above. Applicant further submits that the additional cited references fail to address the deficiencies associated with Furukawa. Accordingly, for this reason, applicant respectfully submits that the rejection of Claims 4, 6-9, 11, 12, 16, 18-21, 23, and 24 are in error and request that it be withdrawn.

CONCLUSION

In view of the remarks above, applicants respectfully submit that the present application is in condition for allowance, Reconsideration and reexamination of the application, and allowance of the claims at an early date is solicited. If the Examiner has any questions or comments concerning this matter, the Examiner is invited to contact the applicants' undersigned attorney at the number below.

Respectfully submitted,

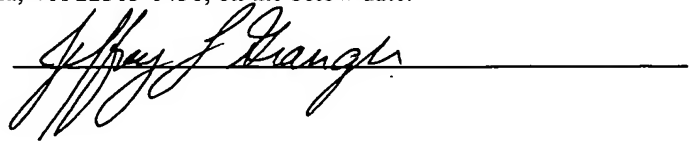
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